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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,716	07/28/2003	Kenji Niibori	03500.017434.	7102

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EXAMINER	
WON, BUMSUK	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/627,716	NIIBORI ET AL.	
	Examiner	Art Unit	
	Bumsuk Won	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/28/2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-19* is/are rejected.

7)☒ Claim(s) *11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/17/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the abstract has more than 150 words and is using legal phraseology "comprises" in line 6. Correction is required. See MPEP § 608.01(b).

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Image display apparatus having spacer with fixtures.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, 6, 8-9, and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsutake (US 6,803,715) in view of Yonezawa (US 2002/0121857).

Regarding claim 1, Mitsutake discloses an image display comprising:

a first substrate provided with a plurality of electron emitting elements in vacuum container (note column 5, lines 6-7, and figure 2, item 1019);

a second substrate positioned opposite to said first substrate in said vacuum container, said second substrate being irradiated with electrons emitted from said electron emitting elements (note column 5, lines 8-10, and figure 2, item 1011);

at least one spacer disposed on either one of said first and second substrates to provide an atmospheric pressure resistant structure of said vacuum container, said spacer being interposed between said first and second substrates and having a

longitudinal direction a direction substantially perpendicular to an opposing direction of said first and second substrates (note column 5, lines 11-19, and figure 2, item 1020);

and a lateral wall positioned inside an external periphery of at least either one of said first and second substrates to provide a sealed structure of container, said vacuum container (note figure 2, item 1016),

wherein a first support member for supporting said spacer is provided outside an image display area which is formed between an area said electron emitting elements of said first substrate and an electron-irradiated area of said second substrate (note column 5, lines 20-24, and figure 3, item 1021).

Mitsutake does not disclose a second support member that is provided outside said image display area of either one of said first and second substrates, and wherein said first support member and said second support member are joined together.

Yonezawa discloses a display device spacer fixture that has a first support member (note page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) and a second support member (note page 1, paragraph [0005], line 2, "metal piece", and figure 12(a-c), item 921) that is provided outside said image display area of either one of said first and second substrate (note figure 12(a)), wherein said first support member and said second support member are joined together, for the purpose of supporting said first support member and being welded to a metal layer on the substrate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make a spacer fixture disclosed by Mitsutake using a first support member and a second support member wherein said first support member and

said second support member are joined together, for the purpose of supporting said first support member and being welded to a metal layer on the substrate.

Regarding claim 2, Yonezawa discloses first support member (page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) and second support member (page 1, paragraph [0005], line 2, "metal piece", and figure 12(a-c), item 921) consist of members having conductivity (note abstract line 8-9, "The end of the coil 131 of a cathode filament 13"). The first support member is part of a cathode filament (note figure 12(a-c), item 93) that is conductive material.

The reason for combining is the same as for claim 1 above.

Regarding claim 3, Yonezawa discloses first support member (page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) and second support member (page 1, paragraph [0005], line 2, "metal piece", and figure 12(a-c), item 921) are joined by welding (note page 1, paragraph [0005], lines 1-4).

The reason for combining is the same as for claim 1 above.

Regarding claim 6, Mitsutake discloses an electrode (note column 15, lines 54-55) formed on a surface of said spacer and said first support member (page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) are electrically joined. Both electrode and first support member are electrically conductive material, and they are joined together, therefore they are electrically joined.

Regarding claim 8, Yonezawa discloses the electrode (note column 15, lines 54-55) formed on a surface of said spacer and said first support member (page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) are electrically joined by a contact of a contact portion having spring characteristics, provided on said first support member (note page 2, paragraph [0027], lines 1-2, and figure 12(a-c)).

The reason for combining is the same as for claim 1 above.

Regarding claim 9, Yonezawa discloses an electrode (note page 1, paragraph [0005], lines 2-3, and figure 12(a-c), item 92) formed on either one of said first and second substrate, bearing said second support member (page 1, paragraph [0005], line 2, "metal piece", and figure 12(a-c), item 921) is electrically joined to said second support member (note page 1, paragraph [0005], lines 1-4).

The reason for combining is the same as for claim 1 above.

Regarding claim 12, Yonezawa discloses an electrode (note column 15, lines 54-55) formed on a surface of said spacer and an electrode (note page 1, paragraph [0005], lines 2-3, and figure 12(a-c), item 92) formed on either one of said first and second substrates, bearing said second support member are electrically joined together via said first and second support members.

The reason for combining is the same as for claim 1 above.

Regarding claim 13, Mitsutake discloses all the claimed limitations except for spacer is fixed by a weld joining in said air-tight container.

Yonezawa discloses spacer in an image display apparatus being fixed by a weld joining in air-tight container (note page 1, paragraph [0005], lines1-4), for the purpose of supporting the spacer.

The reason for combining is the same as for claim 1 above.

Regarding claim 14, Mitsutake discloses said spacer has a potential defining electrode (note column 15, lines 53-55, and figure 15, item 1225) for defining a surface potential of said spacer, and a potential of said potential defining electrode is defined by said weld joining to an electrode provided in said air-tight container. The surface of the spacer is electrically weld joined to an electrode provided in air-tight container, therefore, the potential of potential defining electrode is same potential as weld joining.

Regarding claim 15, Mitsutake discloses said spacer is a plate-shaped spacer (note figure 9). And Yonezawa discloses both ends of said spacer in a longitudinal direction of said plate-shaped spacer are fixed by said weld joining (note page 1, paragraph [0005], lines1-4) outside an image display area of said air-tight container (note figure 12(a)).

The reason for combining is the same as for claim 1 above.

Regarding claim 16, Mitsutake discloses said spacer has a conductive member (note column 15, lines 53-55, and figure 15, item 1225) for defining a surface potential of said spacer, and a potential of said conductive member is defined by said weld joining to an electrode provided in said air-tight container. The surface of the spacer is electrically weld joined to an electrode provided in air-tight container, therefore, the potential of conductive member is same potential as weld joining.

Regarding claim 17, Yonezawa discloses said weld joining is made between a conductive first support member (page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) provided on said spacer and said electrode (page 1, paragraph [0005], line 2, "metal layer", and figure 12(a-c), item 92).

The reason for combining is the same as for claim 1 above.

Regarding claim 18, Yonezawa discloses weld joining is made between a conductive first support member (page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) provided on said spacer and a second support member (page 1, paragraph [0005], line 2, "metal piece", and figure 12(a-c), item 921) provided on said electrode (page 1, paragraph [0005], line 2, "metal layer", and figure 12(a-c), item 92).

Regarding claim 19, Mitsutake discloses all the claimed limitations except for spacer is fixed via a metal member in said air-tight container.

Yonezawa discloses spacer in an image display apparatus being fixed via a metal member (note page 1, paragraph [0005], lines1-4) in said air-tight container, for the purpose of supporting the spacer.

The reason for combining is the same as for claim 1 above.

6. Claims 4-5, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsutake (US 6,803,715) in view of Yonezawa (US 2002/0121857) as applied to claim 1 above, and further in view of Yamazaki (US 6,184,619).

Regarding claims 4-5, Mitsutake in view of Yonezawa discloses all of the claimed limitations except for first support member (page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) and second support member (page 1, paragraph [0005], line 2, "metal piece", and figure 12(a-c), item 921) are joined by a first joining member, wherein said first joining member is selected from a group of a solder material, a conductive adhesive and a low melting metal material.

Yamazaki discloses conductive adhesive (column 8, line 10, "frits") can be used to joining members (column 8, lines 9-13), for the purpose of supporting the spacer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make image display apparatus with first and second support members for spacer disclosed by Mitsutake using conductive adhesive to join first and second support member, for the purpose of supporting the spacer.

Regarding claim 7, Mitsutake in view of Yonezawa discloses all of the claimed limitations except for the electrode (note column 15, lines 54-55) formed on a surface of said spacer and said first support member (page 1, paragraph [0005], line 1, "coil", and figure 12(a-c), item 931) are electrically joined via a conductive adhesive.

Yamazaki discloses conductive adhesive (column 8, line 10, "frits") can be used to joining members (column 8, lines 9-13), for the purpose of supporting the spacer.

The reason for combining is the same as for claims 4-5 above.

Regarding claim 10, Mitsutake in view of Yonezawa discloses all of the claimed limitations except for the electrode (note page 1, paragraph [0005], lines 2-3, and figure 12(a-c), item 92) formed on either one of said first and second substrate, bearing said second member is electrically joined to said second support member via a conductive adhesive.

Yamazaki discloses conductive adhesive (column 8, line 10, "frits") can be used to joining members (column 8, lines 9-13), for the purpose of supporting the spacer.

The reason for combining is the same as for claims 4-5 above.

Allowable Subject Matter

7. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 11, the prior art of record neither shows nor suggest a image display apparatus comprised of, in part, an electrode formed on either one of first or second substrates, bearing second support member is electrically joined to second support member by a contact of a contact portion having spring characteristics, provided on second support member, along with the rest of the limitations of the claim.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bumsuk Won
Patent Examiner

JOSEPH WILLIAMS
PRIMARY EXAMINER